



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

BIRDS OF PORTO RICO.

BY B. S. BOWDISH.

(Concluded from Vol. XIX, Oct., 1922, p. 366.)

53. *Tyrannus dominicensis*. GRAY KINGBIRD. — Very abundant wherever I went, and equally so at all seasons. It is perhaps the most conspicuous bird of Porto Rico, being very evenly distributed about the woods and fields, along the creeks, and about the houses in the towns.

In general habits it is much like the common Kingbird; it seems even bolder in defence of its nest, while out of the breeding season it appears rather less pugnacious, though not at all averse to indulging in many a mock battle with its own kind in the tree-tops, uttering loud harsh cries. Its nesting habits, and its eggs are scarcely distinguishable from those of *T. tyrannus*. One pair, nesting about twenty rods from a ranch house near Aguadilla, furnished a set of three eggs, slightly incubated, June 9, 1900. The nest was on a horizontal limb of a mango tree ten feet from the ground, in an open field; diameter 7.00×2.25 , depth 3.00×1.50 inches. It was composed of fine rootlets and dead vines. Another set of three eggs, one fresh, the other two with incubation commenced, was taken from a nest situated like the last, July 9, at the same locality. It was placed twelve feet from the ground on a horizontal limb of a tree in an open field. Diameter of nest, 8.00×3.12 ; depth, 2.50×1.25 . It was composed of twigs, exteriorly, and lined with rootlets. If a nest is destroyed the birds build another close by, often in the same tree, sometimes in the same position as the first. The number of eggs is almost invariably three, and they apparently rear but one brood in a season, the dates for fresh eggs ranging from June 20 to July 22. In the shade trees on a road leading from Cataño to Bayamon, I have seen as many as eight occupied nests at one time. Several stomachs examined showed the following contents: male, few small berries; female, one large berry-seed and remains of insects; male, berries; male, flies, grasshoppers and other insects; male, berries, coleoptera, and other insects; two males, insects; male and female, seeds and insects; male, seeds and insects; male, seeds and insects; male, insects and two large seeds. The seeds were those of wild fruits on which they feed quite largely. The voice when scolding an intruder resembles that of *T. tyrannus*, and they usher in the morning with notes at times quite similar to some the Phœbe occasionally utters. At times their notes cover quite a wide range of variability.

54. *Pitangus taylori*. TAYLOR'S FLYCATCHER. — Of this species almost the same description may be repeated throughout as for the preceding. In some places it seems a little less common than the Gray Kingbird, in others it seems fully to equal it in numbers. Its eggs I have not seen but presume they resemble those of the Gray Kingbird. Two nests with

young found June 1 and 5, respectively, were not in any way distinguishable from those of the latter bird. The notes are very similar, somewhat harsher, and the bird is perhaps more voluble than its relative, and bolder and more aggressive in defense of its nest. The stomach contents of several specimens examined was as follows: female, insects; male, insects; male, fruit seeds and skins; female, lizard about two and one half inches long, and remains of another lizard and several hornets.

55. *Myiarchus antillarum*. ANTILLEAN CRESTED FLYCATCHER.—A common and fairly evenly distributed bird, observed alike in the vicinity of San Juan, Aguadilla, and Mayaguez, and on the island of Vieques. Rather more quiet than many of the flycatchers. Its cry is peculiar and distinctive,—a long-drawn, mournful whistle, more like the note of the Acadian Flycatcher than of any other member of this family that I know. June 1, 1900, near Aguadilla, a pair were greatly disturbed by my approach to a small tree, in an open field, which contained several holes. Native boys said they nested in these holes, which seems probable, but at the time of my visit they had apparently not yet built. It is probable that the eggs and nest resemble, on a smaller scale, those of our Crested Flycatcher. The bird has more the appearance of the Phœbe. A few stomachs examined contained small shells and coleoptera, small yellow wasps and remains of beetles and fruit-seeds. Other examples contained a much larger percentage of fruit remains and seeds.

56. *Blacicus blancoi*.—Common in the western part of the island. Its most common note is a purring cry somewhat suggesting the note of the Wood Pewee, and its general habits and method of feeding are also similar to those of that bird. It is not shy, and often pursues its insect prey in very close proximity to a person, usually with apparent indifference, sometimes exhibiting a slight degree of curiosity. A deserted nest found near Mayaguez, June 27, 1901, could have hardly belonged to any other bird. It was hung in the tips of a branch of a tree growing in a coffee plantation, on a hillside, and was fifteen feet from the ground. It was built of fine hair-like roots, green stringy moss, and two white flower-petals. It measured 5.50×2.00 inches outside, and 2.75×1.25 inside. It was very frail and could be seen through from below. It contained one addled egg, and young had apparently been reared in it. The egg measured 0.75×0.56 inches; it had a light creamy ground color dotted sparingly, chiefly about the larger end, with specks and dots of burnt umber and cinnamon. Both the nest and the eggs suggest those of the Acadian Flycatcher. They are now in the U. S. National Museum.

57. *Corvus leucognaphalus*. WEST INDIAN CROW.—Although I never met with this species, I was told by two of the men of my company that they saw some fifteen or twenty at different times at Caguas. In size and general appearance it is much like our common Crow, but the unexposed portion of the feathers are snowy white. A government collection of which I had charge in San Juan contained a mounted example of this species.

58. *Agelaius chrysopterus*. YELLOW-SHOULDERED BLACKBIRD.—In general habits and notes this species is almost the counterpart of our Red-wing. Common in the vicinity of marshy ground wherever I went. I have never found their nests, but I presume that in the marshes, among the cat-tails, flags, bulrushes and other dense growth, almost impenetrable to man, they find a safe retreat, and doubtless nest there in about the same manner as the Red-wing, in the United States. On June 8, 1901, I visited one of the large marshes in the vicinity of Mayaguez for the purpose of investigating their breeding habits, but on observing many nearly full-grown young on the wing and beginning to show the yellow shoulder patch, I did not prosecute the search further. In variety and quality their notes seem almost identical with those of the Red-wing. They sometimes enter the cornfields with the grackles, for the grain, and both came to the post stables at Mayaguez to feed on the scattered oats, but this bird apparently feeds mainly on insects in the vicinity of the marshes. I also found them on Mona. The sexes are alike in color, and the young quickly attain the shoulder patch.

59. *Icterus portoricensis*. PORTO RICO ORIOLE.—An abundant bird throughout the island, and also found on Vieques. Its feeding habits, and particularly its notes, suggest the blackbirds rather than the orioles. Both fruit and insects enter into its bill of fare, but my examination of the stomachs, of both adults and juveniles, indicated that insect food predominates. The alarm note is a blackbird-like chip, but I have never heard a song. June 9, 1900, I observed a young one about half-grown, which may furnish a clue to the date of breeding. They are said to nest in the palms. Near Aguadilla, Sept. 23, 1901, I found a nest under one of these trees, which had evidently been dislodged from the tree. It was obviously of oriole architecture, and undoubtedly belonged to the present species. It was well woven of fibrous strips from the foliage of the palm, and quite resembled a nest of the Orchard Oriole.

60. *Icterus icterus*. TROUPIAL.—I often saw them in cages and was told that they were not rare in certain localities, but I did not find them. An introduced species.

61. *Quiscalus brachypterus*. SHORT-WINGED GRACKLE.—Its general habits and notes are like those of the Bronzed Grackle. They nest in the higher cocoanut and royal palm trees, and sometimes several nests are placed in one tree. They are usually nearly or quite invisible from the ground. I have not seen the eggs but presume they resemble those of other members of the genus. At Aguadilla on July 24, 1900, native boys climbed a cocoanut tree and procured a nest with eggs. The eggs had been destroyed before I heard about them. I obtained the nest and sent it to the U. S. National Museum. It was built of grasses and bits of wild cotton (of which there was a quantity growing near), and lined with fine roots and one feather. In the center there was almost no bottom, probably where it rested on a leaf-stem. No mud was used in its construction. It measured 2.63×2.13 inches in depth, and 6.25×3.25 in diameter and

bore a general resemblance to nests of the Bronzed Grackle, though rather less bulky. The nesting season seems to begin the last week of May or the first of June. The birds have a great variety of notes, generally resembling those of other grackles. Near Mayaguez, Oct. 2, 1900, I observed a flock of about a dozen of these birds evidently feeding on vermin in the hair of a cow. She stood quietly, apparently realizing their purpose, and they clambered over her belly, legs, udder and teats and climbed up and down her tail as though it were a weed-stalk. After standing for some time she moved along and the grackles followed her.

62. *Spermestes cucullatus*.—This introduced species is locally and seasonally common. Oct. 9, 1901, at Mayaguez, I shot a female, and near the same spot I shot a male, on the 21st. Stomachs contained grass, weed seeds and fine grit. The habits of this and the next species are strikingly suggestive of those of the American Goldfinch, particularly the flight and notes of the next.

63. *Sporæginthus melpoda*. This exotic is abundant in some of the marshy tracts in the vicinity of Mayaguez and Cabo Rojo Lighthouse. I have never found them far from these wet tracts. Birds collected May 23 and 30 showed indications that they were breeding at the time. They undoubtedly nest among the flags and rank growth in the marshes, but these places are so difficult of investigation that I failed to find a nest.

64. *Ammodramus savannarum*. WEST INDIAN GRASSHOPPER SPARROW.—Fairly common in suitable localities. I collected them near San Juan, Aguadilla, and Mayaguez, and a nest and eggs from a pasture studded with dwarf bushes, close to San Juan Bay. The nest was in a slight depression in a clump of wire grass, in a small space clear of bushes, and was composed entirely of fine grasses. It was very neat, domed over, growing grasses being woven into the sides, and was well concealed. It measured 3.75×2.00 inches in diameter and 3.00×2.00 inches in depth. It contained three well incubated eggs, not distinguishable from those of *A. s. passerinus*. Another set taken at Aguadilla, June 16, 1900, consisted of three fresh eggs. The nest was built of bits of grass, finer ones being used for lining; it was partially domed and protected by a clump of grass and situated in a slight hollow in an open field. The bird in appearance and habits closely resembles *A. s. passerinus*.

65. *Loxigilla portoricensis*. PORTO RICO GROSBEAK.—I found this Grosbeak very common in the vicinity of San Juan, Mayaguez, Aguadilla and Las Marias. The males have a song very much like that of the Song Sparrows, but exaggerated. They also have call whistles of several notes each, one of which, a high-pitched note repeated three times rapidly, is easily imitated. Some of their notes are strikingly like notes of the Cardinal. The bird is somewhat shy and objects to too close observation, usually keeping well concealed, and flying away into the bushes when approached. Its food consists chiefly of fruit and seeds of various kinds.

June 15, 1900, I found a nest near Aguadilla. It was in a ravine between two of the wooded hills which rise sugar-loaf shaped from the

level pastures. It was built among thick bushes, in a clump of twigs against the body of a small tree, eight feet from the ground and well concealed. The female was so shy that I hardly had a glimpse of her, and though I went away and waited several hours she apparently did not return. The nest was built of weed and vine stems, dead leaves and skeletons of leaves, and was well domed. It measured 6.25×3.00 inches in diameter, with a depth of 7 inches to the top of the dome, 3 to the lower edge of the entrance, and 2 inches inside. It contained three eggs of a decided grosbeak type, in size and appearance much like eggs of the Rose-breast.

The females of this species are much shyer and more seldom seen than the males. Oct 25, 1901, I shot, near Mayaguez, a female of this species which closely resembled a male, but the black was a little more dingy; the ovaries contained an egg that would have been deposited the next day. This would seem to indicate that they may sometimes rear two broods in a season.

66. *Tiaris bicolor omissa*. GRASSQUIT.—An abundant bird in all of the localities which I visited except Mona and Decicheo Islands. I have already dealt with this bird at such length that I will here only refer the reader to 'The Osprey,' Vol. I (new series), p. 45.

67. *Tiaris olivacea bryanti*. BRYANT'S GRASSQUIT.—I did not find this bird as abundant anywhere as the preceding; although not at all rare about San Juan and on the Island of Vieques, it was scarce in the vicinity of Mayaguez and Aguadilla. The song is somewhat more musical than that of *T. b. omissa*; the other notes are much the same. I failed to find a nest, but a female shot at Vieques, Jan. 30, 1899, would have deposited an egg the next day.

68. *Nesospingus speculiferus*.—Although I made special search for this Tanager I failed to find it. A three days' trip into the mountains about Las Marias was made especially in search of this species but without success. It is strictly a bird of the mountains.

69. *Euphonia sclateri*.—A specimen, taken by a boy with a 'bean shooter' and given to me, was the only one obtained. They are said to be resident in the vicinity of Ponce, but to visit the country about Mayaguez only in the late summer and autumn, in small flocks. The above mentioned specimen showed no development of the ovaries, and the stomach contained seeds of small fruit. The boy who took it said that he observed small flocks several times, and spoke of their singing in a very charming manner, but I did not at any time either see or hear any.

70. *Spindalis portoricensis*.—I did not meet with this bird in the vicinity of San Juan, nor on the smaller islands, but it is abundant near Aguadilla, Mayaguez, and Las Marias. The only song I have heard it utter was a more or less broken succession of sparrow-like chips and twitters, sharp and strong. The flight is slightly undulating. The food is about 70% fruit and seeds, the remainder insects. Quite unlike the Grosbeak, this Tanager is unsuspicious, frequently feeding quite close to one.

At Aguadilla, June 9, 1900, I took two nests with eggs, from trees growing in small clumps near a house on a cleared plantation. The first nest contained two eggs, slightly incubated. The nest measured 4.00×2.25 inches in diameter and $2.25 \times .75$ inches in depth. It was constructed of fine vines and tendrils, and placed ten feet from the ground, in an upright fork of a small mango. The second contained three eggs, advanced in incubation. The nest measured 4.00×2.13 in diameter and 2.25×1.00 inches in depth. It was composed of fine vines and tendrils, ten feet up in the fork of a small mango tree in a coffee patch near a house. These nests were frail saucer-shaped structures, greatly resembling in position and structure typical nests of the Rose-breasted Grosbeak. The eggs were also much like those of that bird.

71. *Progne dominicensis*. WEST INDIAN MARTIN.—I found this bird abundant at all points visited (except Decicheo Island), including Vieques and Mona. It apparently nests exclusively about buildings, being seldom seen away from towns during the breeding season, except on the wild island of Mona, where it probably nests in rock crevices near the mouths of the caves. It is migratory. Oct. 13, 1899, I recorded the last one for that year, apparently a young of the season. The first recorded to arrive for 1901 were three noted on Feb. 1. On Feb. 5 I wrote: "About 3 P. M. a fine rain commenced, and as it began to increase, the air above the barracks was suddenly filled with numbers of *Progne dominicensis*, whirling and circling in every direction. There must have been hundreds of them. This lasted for some time when they disappeared as suddenly as they had come, just as the rain increased to a heavy storm." On July 22, 1899, I noted, in the city of San Juan, a nest belonging to a pair of these birds, situated in a niche between the window-cornice and roof of a balcony, on the front of a house. As the birds seemed to be carrying food, it doubtless contained young. In their general appearance, notes and habits, this species closely resembles the Purple Martin.

72. *Petrochelidon fulva*. CUBAN CLIFF SWALLOW.—Unlike the Martin, the Cliff Swallow has not abandoned its primitive method of breeding, and I saw no indication of their nesting in the vicinity of buildings. It also differs from the Martin in that it is apparently not migratory, seeming to be equally abundant at all seasons. July 23, 1900, near Aguadilla, I found a colony of these birds occupying a small cave in a rocky hill near a road. About fifty or sixty birds were circling about, and in the roof of the cave there were about fifteen or twenty nests. The cave was about twenty feet high and the nests inaccessible, but they appeared to be less elaborate than those of their American relatives. I intended to visit this cave again with a ladder but circumstances prevented. The stomach of one shot July 1 contained a great quantity of small beetles. In company with about half a dozen of its kind this bird was circling about a tree and occasionally alighting in the top branches, doubtless engaged in catching these beetles. In notes, etc., this bird resembles the United States species.

73. *Vireo calidris barbatula*. BLACK-WHISKERED VIREO. — Abundant wherever I went. Apparently at least partially migratory, but of this my evidence is not very positive. On May 1, 1900, I found a finished nest near Aguadilla, on a bush-grown hillside. It was hung in a horizontal fork of a bush, about seven feet from the ground, at the back of a tiny clearing just off a trail. It was composed of fibres and cottony substance and exceedingly handsome, somewhat resembling some specimens of Bell's Vireo. I visited it again on the 20th, but found the nest half torn away and fragments of egg shells lying on the ground beneath. June 9 I found another nest, from being attracted to the tree by the singing of the male. The female was on the nest and remained there while I climbed the tree to within eight feet of her, and jarring the limb and throwing sticks failed to dislodge her, she only crouching closer into the nest. This nest greatly resembled typical nests of *V. olivacea*, and was not nearly so handsome as the first. The two eggs were hardly distinguishable from those of *V. olivacea*. The nest and eggs are in the National Museum. The birds watched the rifling of their home without protest. On the same day I found another nest, which I again visited on the 12th. It was twelve feet up, in the tip of a branch overhanging a road. This was another handsome nest, like the first. It contained newly hatched young. The song and notes of this species resemble those of *V. olivacea*. They eat almost as much fruit and seeds as insect food.

74. *Vireo latimeri*. — I first noted this bird across the Bay from San Juan, back in the bush-grown hills, on April 1, 1900. Hearing a new note, I stopped and began an investigation which ended in the securing of an adult male and female and a two-thirds grown young male. These birds were presented to the National Museum, and were the first received by it in some years, the species being then represented in the Museum collections by an old and discolored specimen. From the time of collecting the above three specimens until the late summer and autumn of 1901, I found these birds rare, and exceptionally silent, when, returning to Mayaguez from Mona Island, I found they were in full song and quite numerous on a certain bush-grown hillside. They were not, however, readily secured, as they mostly kept to the most impenetrable jungles, and though far from shy, were so restless that one might be forty rods away by the time I reached the spot where I had just heard him. I succeeded, however, in securing a series of about twenty birds for the National Museum. The song at this time, though vireo-like, was distinctive, and while not easy to indicate on paper, would not be readily forgotten. On June 15, 1900, I described in my note-book a quite different song, as follows: "This bird has a note quite different from that of any other Vireo I have heard. It sounds somewhat like *too tu-roo*, with the accent on the first syllable, and the last two run together and prolonged." It was musically whistled and repeated a number of times. On June 21, 1900, I wrote: "A *Vireo latimeri* came within six feet of me. He was singing, and the song was quite different from those previously recorded, more vireo-like,

though still distinct from that of any other vireo I have heard." This was the song I heard so much, later on, from the Mayaguez hillside; it was repeated at frequent intervals for about five minutes, the bird then remaining silent for about the same space, and then beginning again. A male shot April 22 was evidently then breeding, and the immature birds secured in September and October would seem to indicate the rearing of more than one brood in a season. Their food seems to consist almost wholly of small insects, very few seeds being found in the stomachs examined, this species being quite different in this respect from *Vireo calidris*.

75. *Cœreba portoricensis*. PORTO RICO HONEY-CREEPER. — Like the Gray Kingbird, the Honey-creeper is a characteristic bird all over the island, in the shade trees of the city streets, in the coffee plantations, in the woods and bushy tangles, and nesting in every possible situation. In habits it resembles both wrens and warblers. Their manner of feeding is somewhat suggestive of the chickadees, as they climb among the leaves and flowers, and the food, as shown by stomachs I have examined, includes small insects, largely coleopterous, spiders, and small worms. The nests are built somewhat like those of the Marsh Wrens, but of firmer material, with an entrance at one side, placed in the tips of branches, and varying from two to fifty feet from the ground. The entrance has usually a porch roof, so to speak, extending outward and downward over it. The prevailing materials are fine rootlets, grasses, vines, straws, and tendrils, with occasional feathers, hair, bits of wool, and wild cotton, and other materials are more or less frequently utilized. The measurements of a few nests are as follows:

	Outside depth.	Inside depth.	Outside diameter.	Inside diameter.
No. 1.	6.25	2.25	3.75 × 3.00	1.63
" 2.	5.00	2.25	3.00 × 4.50	1.63
" 3.	4.00	2.50	4.00	1.50
" 4.	6.75	2.50	3.50	1.25
" 5.	4.25	2.00	4.00	1.25

The inside depth is from the bottom of the entrance to the bottom of the nest. These are probably average examples. Of twenty sets of eggs examined, one was of 4, nine were of 3, and ten were of 2 eggs each.

The eggs are of a light creamy ground tint, varying in some examples to lighter, and in others to pinkish buff. The markings of fine dots are of a decidedly darker shade, a sort of salmon, and vary from being quite sparse in some to others in which the ground tint is nearly obscured. The song is a wheezy trill, and the alarm note a sharp chirp, somewhat like a warbler's note, and between these they have quite a variety of intermediate notes.

76. *Mniotilta varia*. BLACK AND WHITE WARBLER. — A fairly common winter resident, though much less so than in Cuba. Observed in Vieques

and at Mayaguez. First observed in 1899 on Jan. 17, last seen Feb. 18. In 1900, first seen Feb. 3; last, no record. In 1901, first, Oct. 10; no other record.

77. *Compsothlypis americana*. PARULA WARBLER.—The most common of the warblers in winter. In Vieques particularly abundant. Winter of 1899–1900, first, Jan. 18; last, April 8. I also saw a bird June 12, 1900, which at close quarters I was sure was this species, but did not secure it. 1900–01, first, Nov. 5; last, Feb. 23; 1901–02, first, Oct. 25. Have found seeds in the stomach of one of these birds.

78. *Dendroica tigrina*. CAPE MAY WARBLER.—One noted at Mayaguez, Oct. 30, 1901.

Dendroica petechia bartholemica. PORTO RICO YELLOW WARBLER.—Apparently the main point of difference between this form and *D. aestiva* is that there is more rufous on the crown of the present bird. The rufous streaks on the sides and breast are perhaps a little more pronounced. They are very abundant in the mangrove swamps about San Juan Bay. I also found a few in a low, bush-grown, rather swampy cocoanut grove near Mayaguez. The song and notes seem exactly like those of *D. aestiva*.

I never found a nest, but a female shot April 8, indicated that breeding, if not already begun, would soon commence, as was also indicated by a specimen taken April 22. Stomachs examined contained insect food only, chiefly beetles; in one a green beetle about one eighth of an inch long predominating. A wounded bird kept for a short time ate hard-boiled egg readily.

79. *Dendroica coronata*. MYRTLE WARBLER.—Though abundant in Cuba in winter, this bird is apparently not so in Porto Rico. At Vieques I shot a male Jan. 22, 1900, and another Jan. 30. The contents of the stomach of the first was insects, of the second, good-sized seeds. In Cuba the larger proportion of the food is seeds.

80. *Dendroica maculosa*. MAGNOLIA WARBLER.—Apparently far from an abundant winter visitant. I noted one in a tree in a small park in the city of San Juan, Sept. 26, 1899, and was surprised to see it so early. I also shot a male from a tree beside a street in Mayaguez, Dec. 26, 1900. Stomach contents, beetles about one eighth of an inch long.

81. *Dendroica adelaidæ*. ADELAID WARBLER.—This species, peculiar to Porto Rico, I met with only in the vicinity of Aguadilla, and there in no great numbers, chiefly about a glade between two hills, where the nest of *Loxigilla portoricensis* was taken. May 18, 1900, I shot two males, their condition indicating that they were nesting. The stomach of one contained small caterpillars, that of the other, spiders; a female and juvenile male, shot June 15, contained small insects. This young one had not been long out of the nest. Aug. 5, male and female, stomach contents, small insects. They have a warbler-like chip, but I have never heard a song.

82. *Dendroica palmarum*. PALM WARBLER.—Not a very common winter visitant, according to my experience. Shot a male in a mangrove

swamp on San Juan Bay, Feb. 12, 1900; stomach contents, long spider-legs. Another male, March 10, near same spot; stomach contained insects. April 8, in same locality, a female, stomach contained insects. A large number of stomachs examined in Cuba contained seeds.

83. *Dendroica discolor*. PRAIRIE WARBLER.—Next to the Parula Warbler the most common of the migrant warblers. Winter of 1899–1900, first seen Jan. 17; last, no record; 1900, first, Sept. 23; no record for last; 1901–02, first, Sept. 30; no record for last. Stomachs of most Porto Rican birds contained insects only, but I have found only seeds in the stomachs of some Cuban birds.

84. *Seiurus aurocapillus*. OVEN-BIRD.—Fairly common, though less so than in Cuba. I have no dates to offer for arrivals and departures. Shot a male at Vieques, Jan. 16, 1900; stomach containing eight good sized seeds. Dec. 1, 1900, male, at Mayaguez; stomach contents, insects. Saw one at Mayaguez, Oct. 14, 1901, and shot a male Oct. 21; stomach contents, small quantity of insect matter.

85. *Seiurus motacilla*. LOUISIANA WATER-THRUSH.—This bird was not recorded from Porto Rico previous to the time I obtained it at Vieques. Dec. 27, 1899, I shot a female; stomach contents, fine insect remains. Jan. 22, 1900, male; stomach contents, insects. Jan. 22, female, stomach contents, one small snail, and water insects. Nov. 30, at Mayaguez, sex ?, stomach contained fine aquatic insects. Not rare.

86. *Seiurus noveboracensis*. WATER-THRUSH.—Not found as commonly as the last. Shot a female at Mayaguez, Nov. 30, 1900; stomach contents, small aquatic insects. Shot a female at Mona Island, Aug. 18, 1901; stomach empty, condition very fat. It seemed strange indeed to find a bird of this kind on this bare dry rock.

87. *Setophaga ruticilla*. AMERICAN REDSTART.—A quite common winter visitant. Saw one at Mayaguez, Sept. 24, 1900. Noted one at Vieques Nov. 30, 1899; another at Mayaguez, Nov. 4, 1900. One of the very few warblers in whose stomach I have not found seeds.

88. *Mimus polyglottos orpheus*. WEST INDIAN MOCKINGBIRD.—Common wherever I went, except on the islands of Mona and Decicheo. Appearance, song, and habits much the same as those of the American form. I found a nest at San Juan, March 12, 1899, containing three young about ten days old. I also found a nest at Aguadilla, May 19, 1900, containing seven eggs. It is possible that two females laid in this nest but the eggs were quite uniform in appearance, and were advanced in incubation. This nest was about ten feet up in a small tree, by a fence near a house. The nests, situations, eggs, etc., are apparently not different from those of *M. polyglottos*. Stomachs examined contained: a single dragonfly; blue berries; two small centipedes, and a large beetle, minus the head; one large striped beetle. The natives take the young from the nest and rear them, and prize them very highly as cage song birds. They are apparently very easily reared. A boy offered me a healthy young bird for ten cents.

89. *Margarops fuscatus*.—I never met with this bird on the main island, but they were fairly common in the creek-bottoms at Vieques, and abundant among the rocks in the scraggy growth on Decicheo, and still more so around the openings of the caves on Mona Island, where it is the most characteristic land bird. Here I saw a number of bulky nests, built of twigs, on shelves and in niches of the rocks, at the roofs and near the mouths of the caves. These the lighthouse keeper told me belonged to these thrushes, and on Aug. 8 I found one containing the skeleton and feathers of a half grown young, establishing the identity beyond doubt. On Decicheo I shot four birds; a female, July 6, 1900, stomach containing dark purple berries; July 9, two females and one male, stomachs of male and one female contained dark purple berries, the other the entire body of a bombacine moth, about one and a quarter inches long. Specimens taken at Mona had fed chiefly on berries and the fruit of the giant cactus, a katydid or occasional other insect entering into their bill of fare. At Decicheo, on July 8 I made the following note: "As dusk came on I sat in a grotto in the rocks, listening to the vesper song of the *Margarops fuscatus*. Many of the notes are strongly suggestive of the vesper notes of the Robin. One characteristic note, however, is a whistled *tu-weet*, frequently interspersed in the Robin notes. Its vesper song is quite as distinct from its daylight carols as the Robin's. The daylight notes, as they vary, recall notes of the Robin, Catbird, and several of our Thrushes." The bird sings in the evening until it is fairly dark, and its morning notes are ringing with the first streaks of light. Its alarm note is strikingly like that of the Catbird, but rather louder. It is shy and retiring, retreating out of sight the moment it realizes that it is seen.

90. *Mimocichla ardosiacea*. Quite common around Aguadilla and Mayaguez, in the hills back of Cataño, and near Las Marias, but I did not find it on the smaller islands. Its notes are somewhat like those of the preceding species, but the song is far inferior in variety, clearness and sweetness. Its alarm note is entirely different, being difficult of description, a rapidly repeated note something like that of the Cuban Paroquet, on a small scale, and a single nasal *quirk*. It also has a note somewhat resembling that often uttered by Wilson's Thrush in late summer. Its food consists of both fruit and insects, the former greatly preponderating. Though somewhat shy it is less so than *M. schistacea* of Cuba, and far less so than *Margarops fuscatus*. I saw a deserted nest, bulky and well cupped, looking much like an overgrown nest of the Wood Thrush, in the fork of a tree, in the hills near Mayaguez, which could hardly have belonged to any other species than the present. I have shot immature birds in August.

91. *Conurus maugaei* (?).—The occurrence of a *Conurus* in Porto Rico has been considered doubtful. That there is, however, a Paroquet still fairly common in the mountains near Lares every Porto Rican will testify, and I met a considerable number of Americans who had seen them. I

did not visit the section referred to myself, but I was offered live birds which I was assured were brought from there, and at a price that could hardly have been made on birds brought from other islands. It seems to me that the Paroquet referred to in Dr. Richmond's list as "*Conurus latiflorus*—Mona only?" should have a place in the list of Porto Rican birds. *Conurus gundlachi* Cabanis, supposed to be the same as *C. maugei*, was described from Mona Island.

SUPPLEMENTARY LIST.

The principal works and papers referring especially to the birds of Porto Rico, cited in the subjoined list, are the following.

1864. TAYLOR, E. CAVENDISH. Five Months in the West Indies. Part II. Martinique, Dominica, and Porto Rico. < *Ibis*, April, 1864, pp. 157-164.
Notes on 48 species, including 31 observed in Porto Rico.
1866. BRYANT, HENRY. A list of Birds from Porto Rico presented to the Smithsonian Institution, by Messrs. Robert Swift and George Latimer, with descriptions of New Species or Varieties. < *Proc. Boston Soc. Nat. Hist.*, X, 1866, pp. 248-257.
Records 41 species, of which 9 are described as new.
1870. SUNDEVALL, CARL J. Foglarna pa on Portorico..... < *Oefvers. Konigl. Vetensk. Akad. Förhandl. för år 1869* (1870?), pp. 593-604.
About 100 species are enumerated, with annotations.
1874. GUNDLACH, JUAN. Beitrag zur Ornithologie der Insel Portorico. < *Journ. f. Orn.*, 1874, pp. 304-315.
Annotated list of 116 species.
1878. GUNDLACH, JUAN. Neue Beitr ge zur Ornithologie der Insel Portorico. < *Journ. f. Orn.*, 1878, 157-194.
1878. GUNDLACH, JUAN. Apuntes para la Fauna Puerto Riguena. < *Anal. Soc. Esp. Hist. Nat.*, VII, 1878, pp. 135-422. Aves, pp. 141-422
Bibliography and collation of previous authors, and extended notices of the species, 153 in number.
1889. CORY, CHARLES B. The Birds of the West Indies. Roy. 8vo, pp. 324.
Porto Rican birds are included, mostly on the authority of previous writers. Gives descriptions and bibliographical references.

The following 70 species of birds, not met with by me, have been recorded from Porto Rico by various authors, mainly by Dr. Juan Gundlach.

1. *Colymbus dominicensis*. Taylor, 1864 ; Gundlach, 1878!
2. *Sterna maxima*. Gundlach.
3. *Sterna sandvicensis aculeiflvida*. Gundlach, 1874.
4. *Sterna dougalli*. Gundlach, 1874.

5. *Hydrochelidon nigra surinamensis*. Gundlach, 1878.
6. *Phaethon æthereus*. Sundevall.
7. *Mareca americana*. Gundlach, 1878.
8. *Querquedula discors*. Gundlach, 1874.
9. *Pœcilonetta bahamensis*. Gundlach.
10. *Spatula clypeata*. Sundevall.
11. *Dafila acuta*. Gundlach, 1878.
12. *Aythya affinis*. Gundlach, 1878.
13. *Aythya collaris*. Gundlach, 1878.
14. *Erismatura jamaicensis*. Gundlach, 1878.
15. *Chen hyperborea nivalis* (?) = *Chen hyperborea*, Gundlach, 1878.
16. *Dendrocygna arborea*. Gundlach.
17. *Ajaia ajaja*. Gundlach.
18. *Guara alba*. Gundlach, 1878.
19. *Plegadis autumnalis*. Gundlach, 1878.
20. *Botaurus lentiginosus*. Gundlach, 1878.
21. *Ardetta exilis*. Bryant, 1866 ; Gundlach, 1878.
22. *Ardea occidentalis*. Gundlach, 1874.
23. *Garzetta candidissima*. Gundlach, 1878.
24. *Hydranassa tricolor ruficollis*. Bryant, 1866 ; Gundlach, 1878.
25. *Nycticorax nycticorax nævius*. Gundlach, 1878.
26. *Aramus giganteus*. Bryant, Sundevall, Gundlach.
27. *Porzana flaviventris*. Gundlach, 1878.
28. *Porzana carolina*. Bryant, 1866 ; Gundlach, 1878.
29. *Porzana jamaicensis*. "Observado por el Dr. Hall in Bayamon in julio 1879." Gundlach, in MS.—J. A. Allen.
30. *Ionornis martinica*. Bryant, 1866 ; Gundlach, 1878.
31. *Fulica americana*. Gundlach, 1878.
32. *Himantopus mexicanus*. Sundevall, 1869 ; Gundlach, 1874, 1878.
33. *Gallinago delicata*. Sundevall, 1869 ; Gundlach, 1878.
34. *Micropalama himantopus*. Sundevall, 1869.
35. *Ereunetes pusillus*. Sundevall, 1869.
36. *Calidris arenaria*. Gundlach, 1878.
37. *Limosa fedoa*. Gundlach, 1878.
38. *Totanus melanoleucus*. Sundevall, 1869.
39. *Symphemia semipalmata*. Gundlach, 1878.
40. *Numenius hudsonicus*. Gundlach, 1878.
41. *Numenius borealis*. Gundlach, 1878.
42. *Squatarola helvetica*. Gundlach, 1878.
43. *Charadrius dominicus*. Gundlach, 1878.
44. *Ægialitis meloda*. Gundlach, 1878.
45. *Ægialitis semipalmata*. Gundlach, 1878.
46. *Ægialitis wilsonia*. Gundlach, 1874.
47. *Arenaria morinella*. Recorded by Gundlach. There was a specimen in a San Juan collection, but the locality was hardly sure.
48. *Jucana spinosa*. Gundlach, 1878.

49. *Columba corensis*. Gundlach, 1878.
50. *Columba inornata*. Gundlach.
51. *Buteo platypterus*. Gundlach, 1878.
52. *Falco peregrinus anatum*. Gundlach, 1878.
53. *Falco columbarius*. Sundevall, 1869; Gundlach, 1878.
54. *Coccyzus erythrophthalmus*. Gundlach.
55. *Antrostomus vociferus*. Clark P. Streater shot a female, recorded by Cory (Auk, 1889, p. 276) — the only record to date, apparently.
56. *Chordeiles virginianus minor*. Skin in the National Museum from the San Juan collection; locality doubtful.
57. *Lampornis viridis*. Gundlach, Cory, etc. Peculiar to Porto Rico.
58. *Eulampis holosericeus*. Recorded by Gundlach. There are two skins in the National Museum from Culebra.
59. *Trochilus colubris*. Gundlach, 1878.
60. *Bellona exilis*. Cory, 1886-88.
61. *Tyrannus tyrannus*. Cory says: "Accidental in Cuba, Porto Rico? San Domingo?"
62. *Pyrrhomitris cucullata*. Gundlach, 1878. (Introduced.)
63. *Hirundo erythrogaster*. Gundlach, 1878.
64. *Tachycineta bicolor*. Gundlach, 1878.
65. *Riparia riparia*. Gundlach, 1878.
66. *Vireo olivaceus*. Gundlach, 1878.
67. *Dendroica caerulescens*. Gundlach, 1878. Evidently not common in Porto Rico.
68. *Dendroica striata*. Gundlach, 1878.
69. *Dendroica dominica*. Gundlach, 1878.
70. *Geothlypis trichas*. Gundlach, 1878.